

**REMARKS**

Claims 1-20 are now pending. Claims 1-13 are withdrawn from consideration. Claims 18-20 have been added, which are similar to claim 14 but define a computer-readable medium or a computer-implemented method. Support for these claims is found, for example, in Example 1 on page 24 of the present application.

In response to the Examiner's objection, Applicants have provided marked-up versions of the amendments included in the Preliminary Amendment filed February 20, 2002. Applicants have also amended the specification to correct typographical errors pointed out by the Examiner in the present Office action.

The Office objects to the disclosure for three reasons. First, the Office states that no CD was included in the originally filed application. However, enclosed herewith as Exhibit 1 is a postcard showing that the CD-ROM was attached to the application as filed. The original CD attachment included all four appendices. In the action, the Office refers to a Preliminary Amendment filed March 5, 2002; however, only an Information Disclosure Statement was filed March 5, 2002. It is believed that the Office is referring to the Preliminary Amendment filed February 20, 2002. In this amendment, applicants intended to address the objection to the compact disc which was submitted with the original filing, as requested in the Notice to File Missing Parts mailed September 26, 2001. The Office objected to the submitted compact disc because the figures in Appendix C did not comply with 37 CFR § 1.52(e) because they contain non-ASCII files. Thus, the Appendices A, B, and D submitted on CD-ROM, as well as the paper copy of Appendix C, were all originally filed on the CD-ROM attached to the original filing. Thus, it is respectfully submitted that the appendices are not new matter, but were identical to those which were filed on the filing date of the present application.

Second, the Examiner objects to the graphical illustrations on pages 1-13, 15-16, 35, and 36. However, there are no graphs or flowcharts on these pages, but rather what is depicted are chemical formulae. 37 CFR § 1.58(a) permits chemical formulae in the specification in lieu of formal drawings. The fact that both the chemical structure and an alphanumeric symbol are

disclosed on page 11, for example, should make no difference because polypeptide sequences are allowable in the specification, although either the chemical structure or the alphanumeric designation may be used.

Regarding the third objection, applicants have amended the first paragraph to change “applications” to “application” as kindly suggested by the Examiner.

Applicants traverse the rejection of claims 14-17 under 35 U.S.C. § 101. The Office alleges that the claims manipulate concepts or convert data but do not result in any physical transformation outside of the computation of the computer, in accordance with MPEP § 2106,IV. This objection is not understood. MPEP § 2016, IV,B,2(b) describes safe harbors of statutory computer-related processes. A computer-related process is statutory within the first safe harbor if it results in a physical transformation outside the computer for which practical application in the technological art is disclosed or otherwise known. A process is statutory under the second safe harbor if it is limited to a practical application within the technological arts. It is respectfully submitted that the present application contains process claims which fall under both safe harbors.

Specifically, regarding the first safe harbor, the physical transformation outside the computer involves input defining alphanumeric symbols representing structures. Such is a pre-computer process activity that requires the transformation of physical objects (polypeptide sequences) to be transformed outside of the computer into computer data (the alphanumeric symbols). This process is analogous to the examples of statutory processes in the MPEP which relate to analyzing electrical signals and data representative of human cardiac activity by converting the signals to time segments, which are then manipulated and compared. Such data is an intangible representation of a physical activity, human cardiac activity, much like the alphanumeric symbols are intangible representations of polyketide sequences. Similarly, another statutory process relates to CAT-scan images of a patient which perform calculations and display them as an imag. Such data is an intangible representation of a physical object, *i.e.*, portions of the anatomy of a patient, much like the alphanumeric symbols are an intangible representation of polypeptide sequences.

The claimed process also falls under the second safe harbor, which are processes limited to practical application in the technological arts. According to the provisions of the second safe harbor, the claimed process must be limited to a practical application of an abstract idea or algorithm in the technological arts. The claimed method has the practical application of designing a polyketide synthase gene which has a concrete, tangible, and useful result. Examples given in the MPEP of statutory processes include a computerized method of controlling transfer, storage, and retrieval of data between cache and hard disk storage devices such that most frequently used data is readily available. Another example of a statutory process includes maximizing computing efficiency by controlling parallel processors to accomplish multi-tasking of several computing tasks. Another statutory process involves digital filtering to remove noise from a digital signal, including calculating an algorithm which produces a correction signal and subtracting such signal from the digital signal to remove the noise. All of these methods are far closer to a mathematical algorithm than the present claimed method, which requires a polyketide synthase gene to be designed. Thus, applicants respectfully request withdrawal of this rejection. Nonetheless, applicants have added three additional claims, two of which are directed to a computer-readable medium and another which is directed to a computer-implemented method. All such methods are directed to statutory subject matter.

Applicants traverse the rejection of claims 14-17 under 35 U.S.C. § 112, second paragraph. Applicants have amended the claims to address all of the allegedly indefinite phrases as described on pages 5-6 of the present Office action. Thus, this rejection may be properly withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If the Examiner believes that the amendments and remarks herein do not overcome all of the objections and rejections of the action, an interview with the Examiner is respectfully requested.

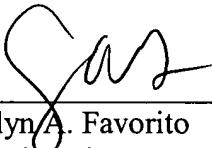
## CONCLUSION

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 300622005500. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: November 18, 2005

Respectfully submitted,

By

  
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ATTORNEY DOCKET: 300622005500 RECEIVED DATE: May 29, 2001

INVENTOR: Chaitan KHOSLA, et al. JUN 08 2001 Atty / Sec: CAF / KBL

TITLE: DESIGN OF POLYKETIDE SYNTHASE GENES  
MURKIN, S. SAN DIEGO DOCKETING

Papers enclosed:

TRANSMITTAL UNDER RULE 1.53 WITH  
CERTIFICATE OF EXPRESS MAIL EXP.  
MAIL LABEL NO.: EL719483750US  
DATED MAY 29, 2001

APPLICATION DATA SHEET (3 PAGES)

SPECIFICATION (INCLUDING CLAIMS)  
(46 PAGES)

DRAWINGS (9 sheet)

DECLARATION  
 SIGNED /  UNSIGNED

FEE TRANSMITTAL FORM

APPLICATION NUMBER/TERMINATION RECORD  
(1 PAGE)

FILING FEE (CHECK IN THE AMOUNT OF  
\$395.00 - SMALL ENTITY)

ABSTRACT (1 PAGE)

ASSIGNMENT (w/ cover sheet) PAGES

POWER OF ATTORNEY BY ASSIGNEE

OTHER: CD Rom attachment  
AKB

j1017 U.S. PTO  
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